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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/636,124 08/10/00 KHAMME

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NM91/0809

EXAMINER

PHAM H

ART UNIT

PAPER NUMBER

2877

DATE MAILED:

08/09/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/636,124

Applicant(s)

KVAMME ET AL.

Examiner

Hoa Q. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1-4, 6-7, 9, 20 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Karaki et al (5,130,965) or Shikichi et al (5,151,888).

Both Karaki et al and Shikichi et al teach what was claimed in claims 1-4, 6, 7, 9, 20, and 23, for example, a light source, a first set of optical elements, a second set of optical elements and a light detector arrangement, etc...(see figures 1, 3, 4 of Karaki et al or figures 1, 2, 5 of Shikichi et al).

Regarding claim 2, see figures 2, 4, 5 of Karaki et al or figures 4, 5, 7A of Shikichi et al.

Regarding claims 3-4, see column 3 lines 40-42 of Karaki et al.

Regarding claims 6-7, see figure 4 of Karaki et al or figure 1 of Shikichi et al.

Regarding claim 9, see deflector (19) in figure 4 of Karaki et al or deflector (4) in figure 1 of Shikichi et al.

Regarding claim 20, see objective lens (7) of Karaki et al or objective lens (5) of Shikichi et al.

3. Claims 1-17, 20, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Vaez-Iravani (6,208,411).

Vaez-Iravani teaches a light source (101), a first set of optical elements (102, 104, 105), a second set of optical elements (107) and a light detector arrangement (108), etc...(see figures 1, 2, 5 and column 5 lines 7-14).

Regarding claim 2, see figures 4 and 5 of Vaez-Iravani.

Regarding claims 3-4, see column 4 lines 54-55 for uniform power distribution among the beams.

Regarding claims 5 and 8, Vaez-Iravani teaches that the scanner is a galvo-mirror, resonant mirror scanner (column 7 lines 8), or polygon scanner (column 9 lines 36-45).

Regarding claims 6-7, see column 5 lines 13-15.

Regarding claims 9-17, Vaez-Iravani teaches that the deflector comprises a AOD or polygon scanner (column 9 lines 44-46) and the beam separator is a diffraction grating (column 4 lines 35-39).

Regarding claim 20, see objective lens (105) of Vaez-Iravani.

Regarding claim 22, see column 3 lines 48-52.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 18-19, 21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaez-Iravani.

Regarding claim 18, Vaez-Iravani does not explicitly teach that the beam separator is a cube. However, it would have been obvious to replace the separator of Vaez-Iravani by a beam splitter cube because they are function in the same manner.

Regarding claim 19, it would have been obvious to include in Vaez-Iravani a means for controlling scanning spot sizes, thus an accuracy of the measurement is obtained.

Regarding claims 21 and 23, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace means for scanning beams in one direction of Vaez-Iravani by moving the substrate in two directions because they are equivalent in function.

5. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sanada et al (6,084,716) in view of Vaez-Iravani or Shikichi et al or Karaki et al.

Sanada et al (of record) disclose an optical substrate inspection apparatus which has all the features of the present invention except that the detector arrangement including individual light detectors that each receive individual ones of the plurality of transmitted light or reflected light beam from the tested object. However, such a feature is known in the art, for example as taught by Vaez_Iravani or Shikichi et al or Karaki et

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al. These references teach the use of individual light detectors that each receive individual one of the plurality of transmitted light (figure 12 of Sanada et al) or reflected light beams (see Vaez-Iravani or Shikichi et al or Karaki et al) from the tested object. Those of ordinary skill in the art at the time the invention was made to replace the detector of Sanada et al by a plurality of individual detectors as taught by Vaez-Iravani or Shikichi or Karaki because they are function in the same manner. A substitution for each other is generally recognized as being within the level of ordinary skill in the art.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-23 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1-20 of copending Application No. 09/636,129. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are similar in scope.

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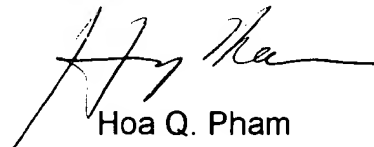
This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kawashima (5,602,400) discloses a surface position detection apparatus; Nagao et al (4,013,367) and Kusunose (6,195,202) disclose a surface detection apparatus.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (703) 308-4808. The examiner can normally be reached on 6:30 AM to 5 PM Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Hoa Q. Pham

Primary Examiner

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Pham/hp

August 7, 2001